

SG - 220

The SG - 220 photointerrupter high - performance standard type, combines high - output GaAs IRED with high sensitive phototransistor.

FEATURES

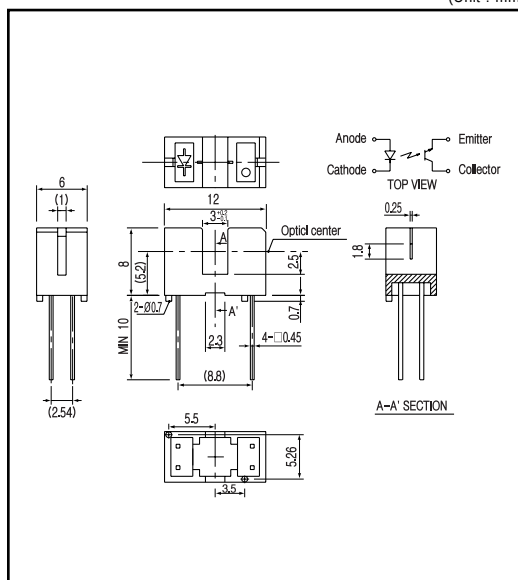
- PWB direct mount type
- GAP : 3.0mm
- High resolution(slit 0.25mm)

APPLICATIONS

- CD changers
- Printers
- Scanners
- Encoders

DIMENSIONS

(Unit : mm)



MAXIMUM RATINGS

(Ta=25)

Item	Symbol	Rating	Unit
Input	Power dissipation	P _D	100
	Forward current	I _F	60
	Reverse voltage	V _R	5
	Pulse forward current *1	I _{FP}	1
Output	Collector power dissipation	P _C	100
	Collector current	I _C	40
	C - E voltage	V _{CEO}	30
	E - C voltage	V _{ECO}	5
Operating temp.*2		T _{opr.}	- 20 ~ +85
Storage temp.*2		T _{stg.}	- 40 ~ +100
Soldering temp.*3		T _{sol.}	260

*1. pulse width : t_w 100 μsec, period : T=10msec.

*2. No icebound or dew

*3. For MAX.5 seconds at the position of 1mm from the package

ELECTRO-OPTICAL CHARACTERISTICS

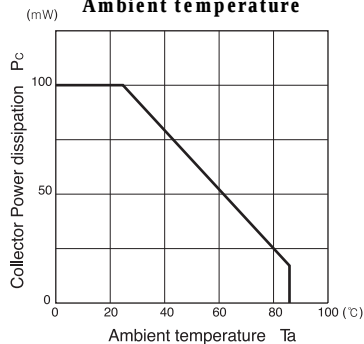
(Ta=25)

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit.
Input	Forward voltage	V _F	I _F = 20mA	1.2	1.4	V
	Reverse current	I _R	V _R = 5V		10	μA
	Peak wavelength	λ _p	I _F = 20mA	940		nm
Output	Collector dark current	I _{CEO}	V _{CE} = 10V	1	100	nA
	Light current	I _C	I _F = 20mA, V _E = 5V, (No shading)	0.1	2.5	mA
Transmissi	leakage current	I _{CEO(D)}	I _F = 20mA, V _E = 5V, (shading)	0.2	2	μA
	C - E saturation voltage	V _{CE(sat)}	I _F = 30mA, I _C = 0.05mA	0.15	0.4	V
	Rise time	t _r	V _{CC} = 2V, I _C = 0.5mA, R = 1kΩ	25		μsec.
	Fall time	t _f		30		μsec.

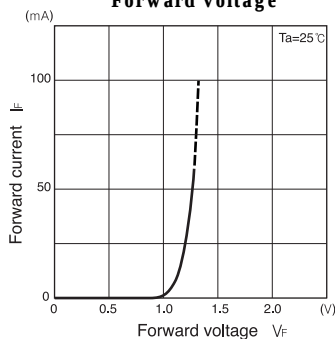
Photo interrupters(Transmissive)

SG - 220

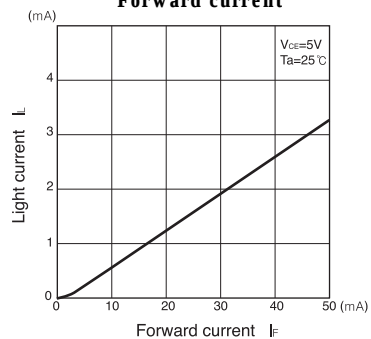
Collector power dissipation Vs. Ambient temperature



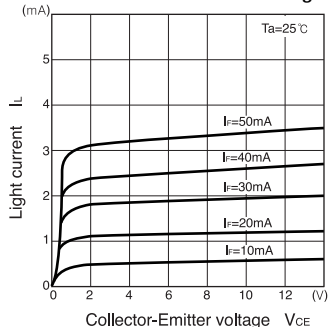
Forward current Vs. Forward voltage



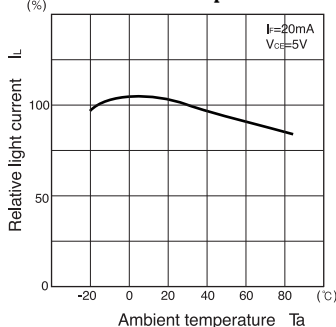
Light current Vs. Forward current



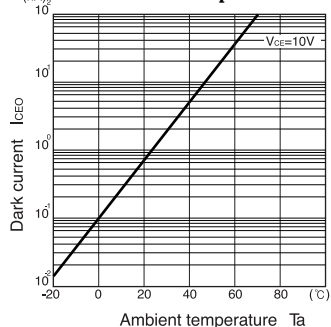
Light current Vs. Collector-Emitter voltage



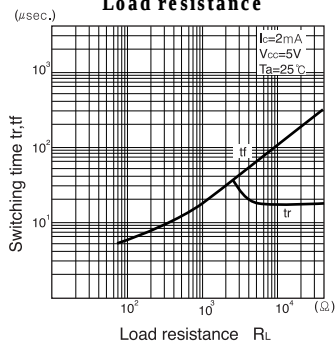
Relative light current Vs. Ambient temperature



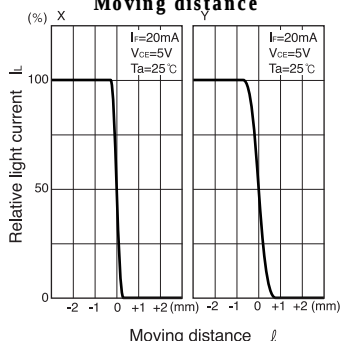
Dark current Vs. Ambient temperature



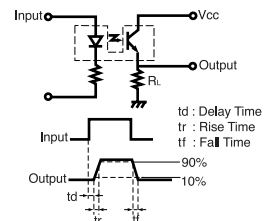
Switching time Vs. Load resistance



Relative light current Vs. Moving distance



Switching time measurement circuit



Method of measuring position detection characteristic

